

REMARKS

Claims 8-11, 18-19, 21 and 22 were examined. Claims 8, 10-11 and 18 are amended. Claims 21-22 are canceled. Claims 8-11 and 18-19 remain in the Application.

The Patent Office objects to certain claims for informalities. The Patent Office rejects claims 8, 18-19 and 21-22 under 35 U.S.C. §102(e). The Patent Office rejects claims 8, 18-19 and 21-22 under 35 U.S.C. §102(b). The Patent Office finally rejects claims 8-11, 18-19 and 21-22 under 35 U.S.C. §103(a). Reconsideration of the pending claims is respectfully requested in view of the above amendments and the following remarks.

A. Claim Objections

The Patent Office objects to claims 9-10, 18 and 21-22 because of certain informalities. Claims 10-11 and 18 are amended to address the concerns raised by the Patent Office. Applicant believes the objection to claim 9 was inadvertent. Claims 21-22 are canceled so the objection is moot.

Applicant respectfully requests that the Patent Office withdraw the objection to claims 9-10 and 18.

B. 35 U.S.C. §102(e): Rejection of Claims 8, 18-19 & 21-22

The Patent Office rejects claims 8, 18-19 and 21-22 under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,252,776 of Saito et al. (Saito).

Independent claim 8 describes an apparatus comprising a heat spreader comprising heat conductive material and a non-contiguous wall structure extending from a surface of the heat spreader. Support for a non-contiguous structure wall structure standing from a surface of the heat spreader may be at page 12, beginning at line 6, where mechanical attachment structures such as posts, legs, legs with holes or legs with feet are described in reference to Figure 4B.

Claim 8 is not anticipated by Saito, because Saito does not disclose a heat spreader including non-contiguous wall structure. Saito describes radiator 11 connected to a substrate

through heat-conducting rubber 5. Saito does not describe its radiator as having a non-contiguous wall structure.

Independent claim 18 describes a semiconductor package comprising a substrate, at least one semiconductor device coupled through a surface of the substrate; and a cover coupled to the top surface of the substrate through a flexible sealant material and creating a space between the substrate and the cover, wherein the semiconductor device resides within the space and the cover comprised of a heat-conductive material. The cover also comprises a plurality of mechanical attachment structures extending from a surface thereof and the coupling of the cover to the top surface of the substrate comprises coupling the plurality of mechanical attachment structures to the surface of the substrate.

Claim 18 is not anticipated by Saito, because Saito does not describe a cover having a plurality of mechanical attachment structures. The discussion with respect to claim 8 and Saito is relevant in this regard.

Claim 19 depends from claim 18 and therefore contains all the limitations of that claim. Claim 19 depends from claim 18 and therefore contains all the limitations of that claim. For the reasons stated above with respect to claim 18, claim 19 is not anticipated by Saito.

Applicant respectfully requests that the Patent Office withdraw the rejection to claims 8 and 18-19 under 35 U.S.C. §102(e).

C. 35 U.S.C. §102(b): Rejection of Claims 8, 18-19 & 21-22

The Patent Office rejects claims 8, 18-19 and 21-22 under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,175,613 of Barker III, et al. (Barker). Barker discloses a heat sink 14 connected to a substrate including peripheral rim or flange 36 connected to the substrate through compliant conductive strip 26.

Claim 8 is not anticipated by Barker, because Barker does not disclose a heat spreader comprising a non-contiguous wall structure extending from a surface of the heat spreader.

Claims 18-19 are also not anticipated by Barker, because Barker does not disclose a cover coupled to a substrate through a plurality of mechanical attachment structures extending from a surface of the structure.

For the above stated reasons, Applicant respectfully requests that the Patent Office withdraw the rejection to claims 8 and 18-19 under 35 U.S.C. §102(b).

D. 35 U.S.C. §103(a): Rejection of Claims 8-11, 18-19 & 21-22

The Patent Office rejects claims 8-11, 18-19 and 21-22 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,931,222 of Toy et al. (Toy) in view of Barker. Barker is cited for teaching connecting a heat spreader to a substrate using a compliant/flexible material. Toy is cited for disclosing a nickel-plated heat spreader.

Claims 8-11 are not obvious over the cited references, because the cited references fail to describe or provide any motivation for a heat spreader comprising a non-contiguous wall structure extending from a surface of the heat spreader. Barker was discussed above. Toy does not describe a heat sink having a non-contiguous wall structure.

Claims 18-19 are not obvious over the cited references, because the cited references fail to describe a package including a cover comprising a plurality of mechanical attachment structure extending from a surface thereof. The discussion above with respect to claim 8 and Toy and Barker is relevant here.

Applicant respectfully requests that the Patent Office withdraw the rejections to claims 8-11 and 18-19 under 35 U.S.C. §103(a).

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance, and such action is earnestly solicited at the earliest possible date. If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees. If a telephone interview would expedite the prosecution of this Application, the Examiner is invited to contact the undersigned at (310) 207-3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: _____

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William T. Babbitt

William Thomas Babbitt, Reg. No. 39,591

12400 Wilshire Boulevard
Seventh Floor
Los Angeles, California 90025
Telephone (310) 207-3800
Facsimile (310) 820-5988

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Nedy Calderon

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Date